

Dust: Fugitive Dust Regulations and Fugitive Dust Plans

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Quality

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Who will you hear from?

- Kerry Kelly
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Webinar Set Up

- All lines will be muted
- Questions can be sent to us via the question/chat box
- We will record and post the webinar online



Introduction

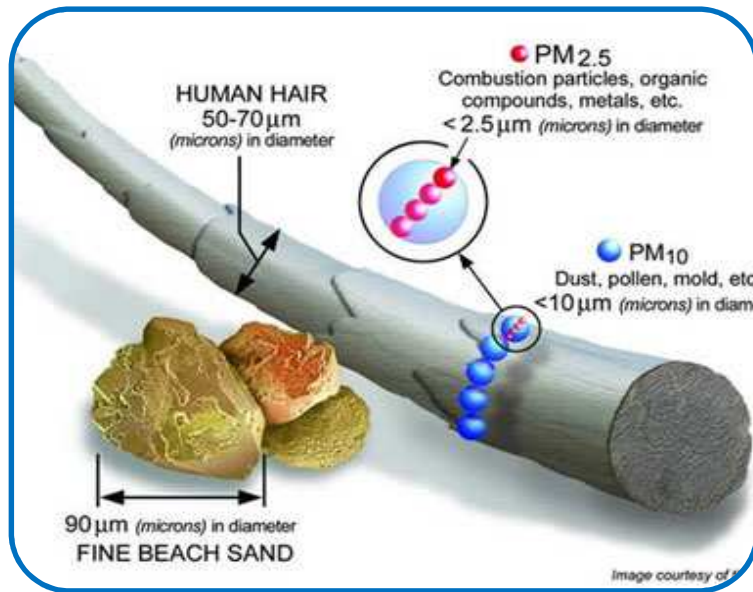
Today I will be discussing;

- Air pollutants
- Why it's important to control dust
- Laws (acts), rules, and regulations pertaining to fugitive dust
- Air Quality Division (AQD) staff roles
- Owner/Operator roles and assistance
- Fugitive dust complaints
- Visible emissions (opacity)
- Fugitive dust control measures

Air Pollutants

- **Criteria Pollutants**
 - There are six Criteria Pollutants
 - Particle Pollution (PM), Carbon Monoxide (CO), Lead (Pb), Nitrogen Dioxide (NO₂), Ozone (O₃), Sulfur Dioxide (SO₂)
 - Can harm health and environment
 - Can cause property damage
- **Hazardous Air Pollutants (HAP's)**
 - 187 HAP's

Particulate Matter Definition



Particulate matter means any air contaminant existing as a finely divided liquid or solid, other than uncombined water, as measured by a reference test specified in or by an equivalent or alternative method

Fugitive Dust Definition



Fugitive dust means particulate matter which is generated from indoor processes, activities, or operations and which is emitted into the outer air through building openings and general exhaust ventilation, except stacks. The term also means particulate matter which is emitted into the outer air from outdoor processes, activities, or operations due to the forces of the wind or human activity

Reasons to Control Dust

Three main reasons the EPA and DEQ created rules and regulations to control fugitive dust are:

- Health effects
- Visibility
- Nuisance

Acts and Regulations/Rules

Acts

- Written by Congress/Legislature
- Provide the authority for EPA/DEQ to write regulations

Regulations /Rules

- Explain the technical, operational, and legal details necessary to implement laws
- Code of Federal Regulations
- Air Pollution Control Rules

Fugitive Dust Regulations

State of Michigan



- Article II, Part 55 of the Natural Resources and Environmental Protection Public Act 451 (NREPA)
- Air Pollution Control Rules
 - Rules 301, 303, 371, 372

Federal



- Clean Air Act
- Title 40: Protection of the Environment
 - New Source Performance Standards

NREPA

Authority of DEQ and Fugitive Dust Regulations

NREPA provides DEQ's inspection authority and fugitive dust control measures in:

- Section 5526
- Section 5524

NREPA

Section 5526

Field Operations Section Authority

- **Enter and inspect a facility**
 - Compliance and complaint investigations
 - Equipment
 - Records
- **Have access to records**
 - Records required pursuant to this part
 - MAERS reports
 - Other data
- **Sample and/or monitor**
 - Conduct visual emission (VE) observations
 - Observe stack testing
 - Material sample collection

Owners/Operators Responsibilities

Owners/Operators of air pollution emission sources are responsible for:

- Identifying emission sources at their facility that are subject to air quality regulations
- Determining state and federal air quality regulations that are applicable to their operations
- Ensuring their facility is operating in accordance with all applicable state and federal regulations

Compliance Assistance

AQD compliance assistance resources for owners/operators

- The Michigan Clean Air Assistance Program (CAAP)
- Help for companies with fewer than 100 employees understand and comply with Federal and State Regulations
 - Environmental Assistance Center
 - Produces training events
 - Offers one-on-one telephone assistance: 800-662-9278
 - Develops “plain English” publications

Sources of Fugitive Dust

Industrial Sectors

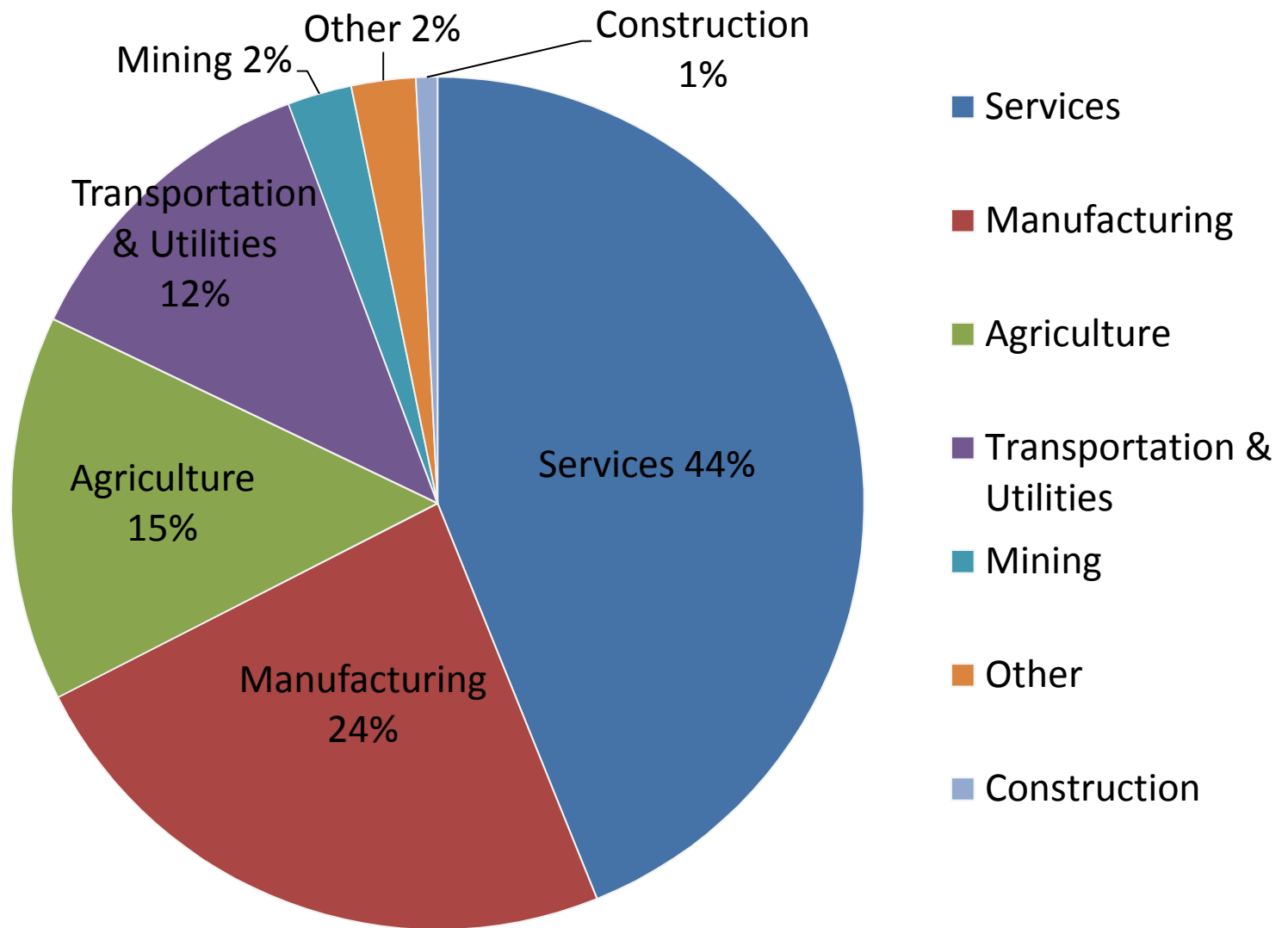
- Services
- Manufacturing
- Agriculture
- Transportation & Utilities
- Mining
- Construction/Demolition
- Wholesale/Retail Trade

Fugitive Dust Complaints

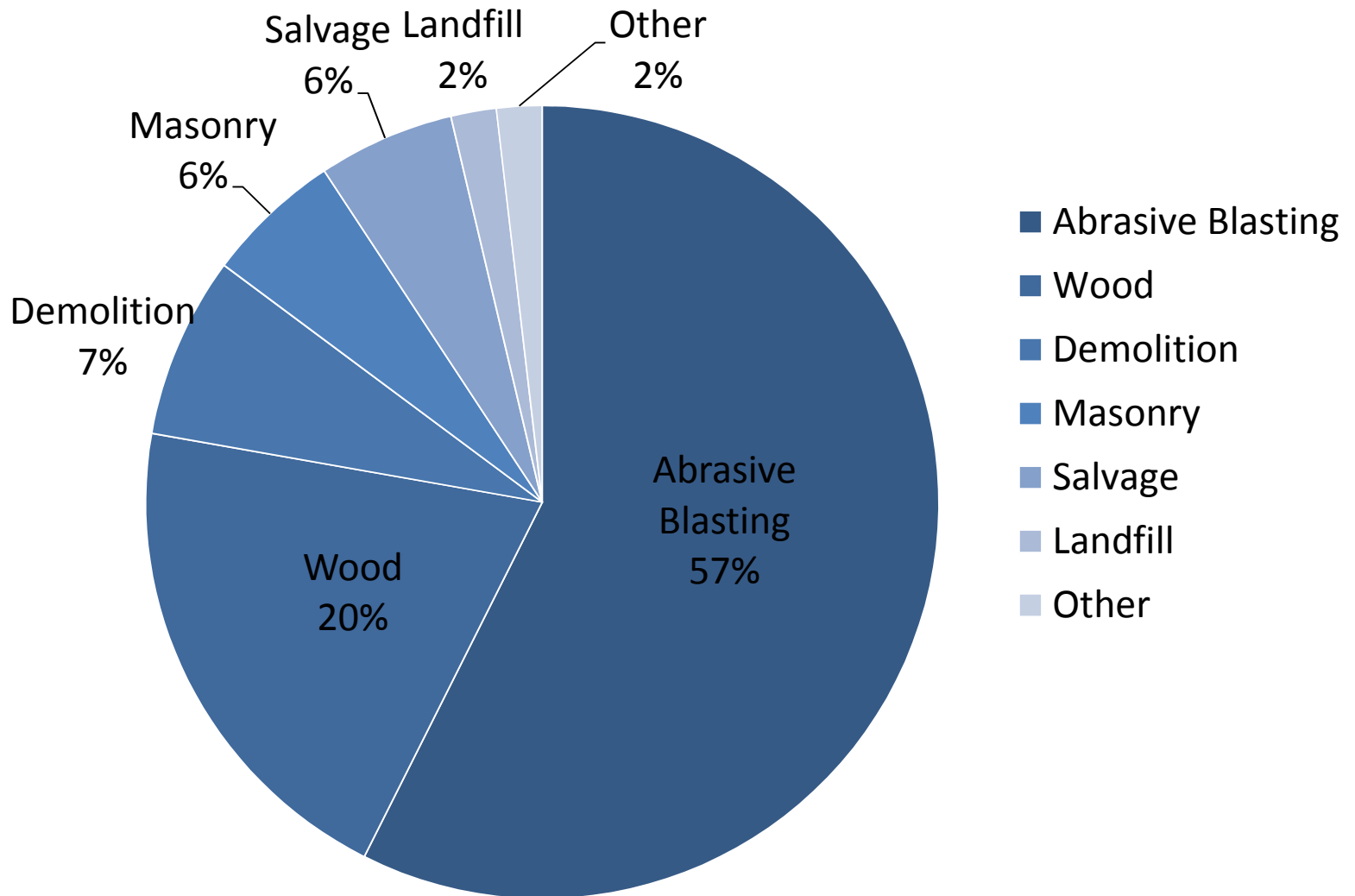
January 2015 – December 2015

- AQD received 123 complaints that dealt specifically with fugitive dust across Michigan
- Three industrial sectors most commonly identified by complainants:
 - Services
 - Manufacturing
 - Agriculture

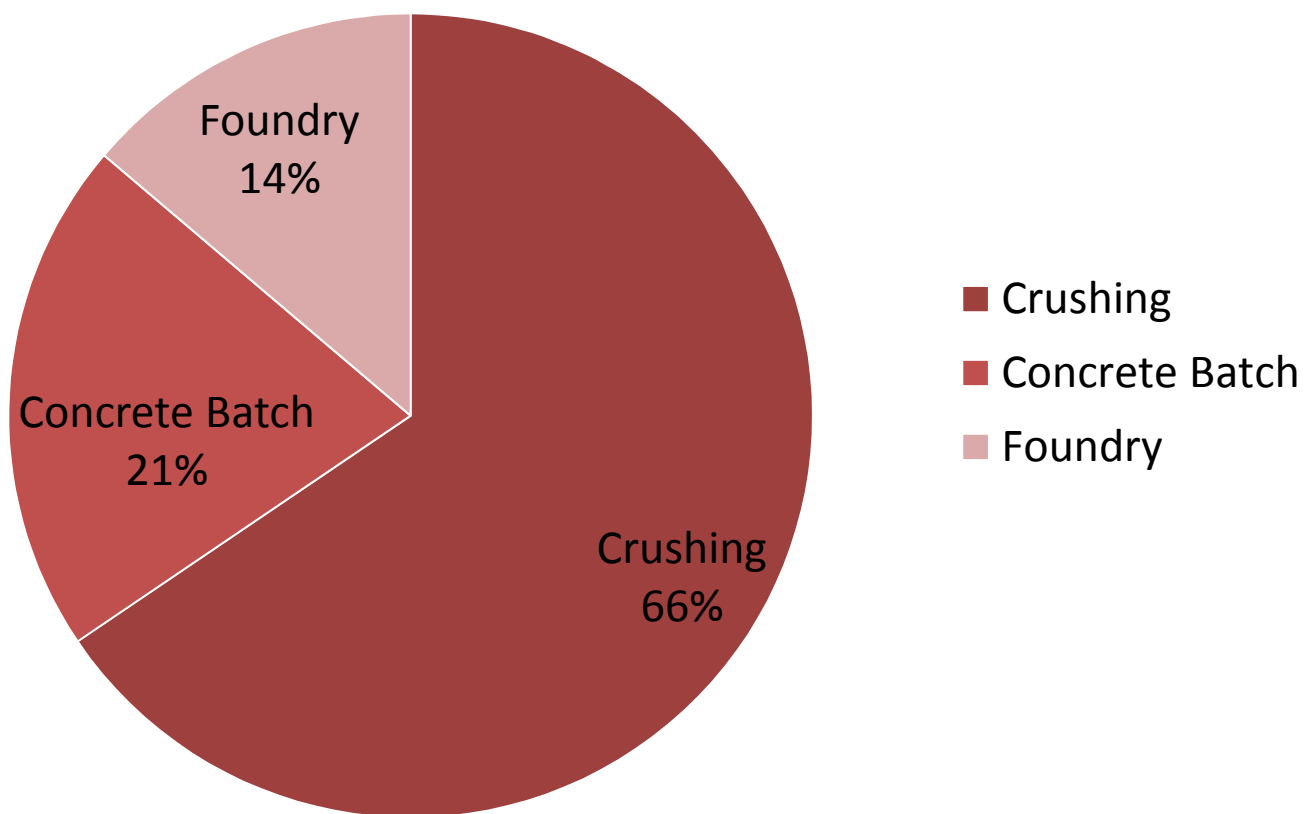
Complaints by Industrial Sector



Services by Source



Manufacturing by Source



NREPA

Section 5524

Fugitive Dust Sources or Emissions

Applies to

- Specific Industrial Classifications
- Specific Geographical Areas that are listed in Table 36 of Rule 371

Contains

- Opacity Limits
 - Method 9d
- Fugitive Dust Control Measures

NREPA

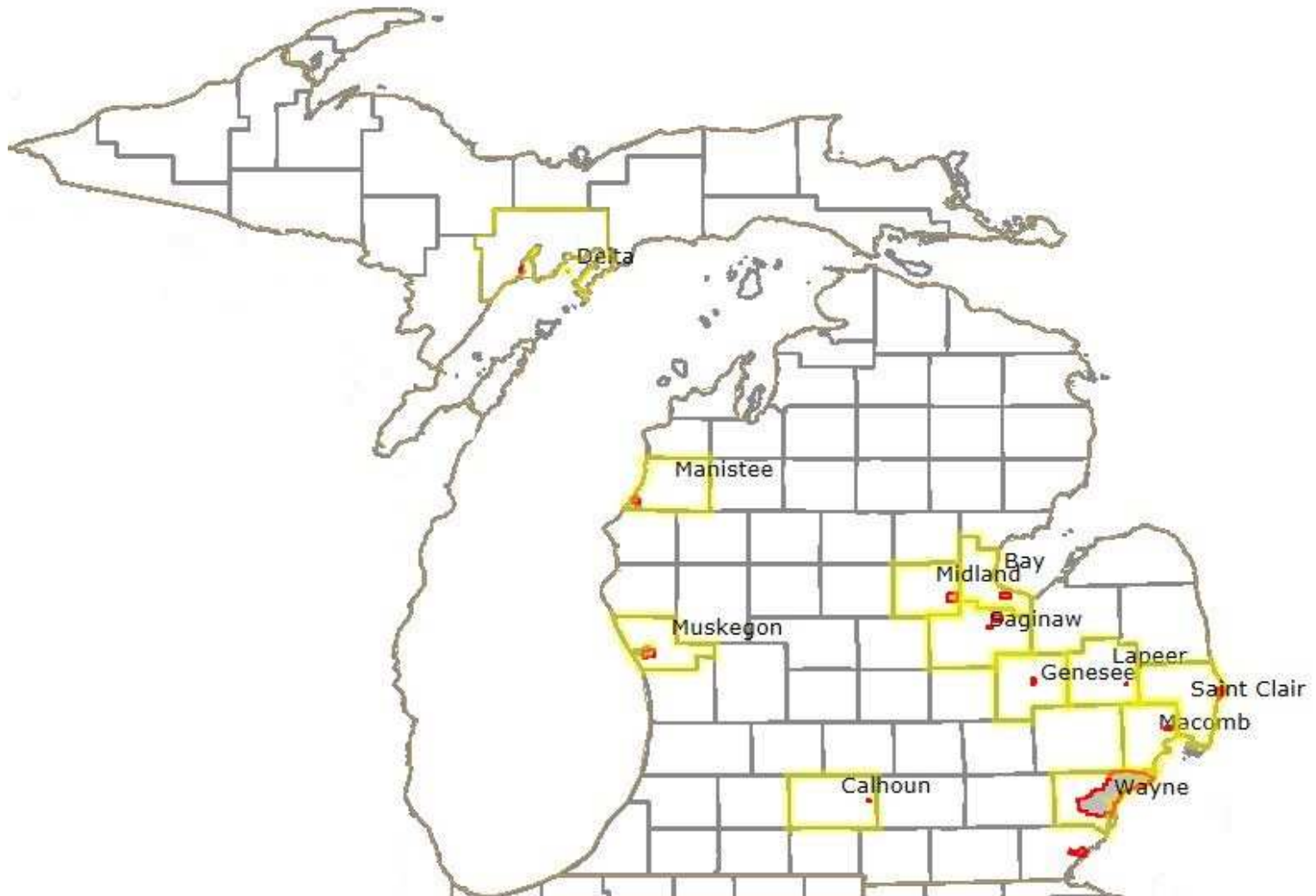
Section 5524: Fugitive dust sources or emissions

Source Categories

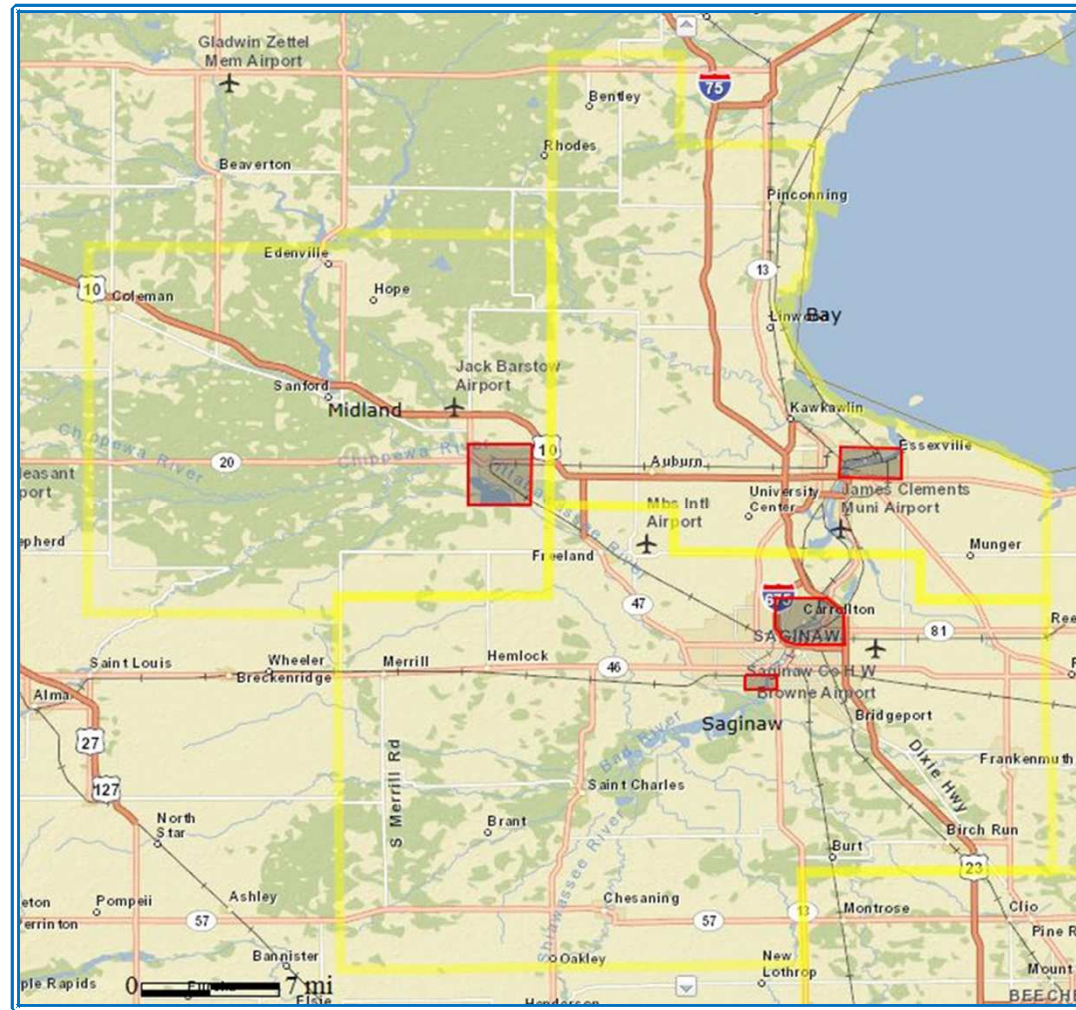
- Mining operations standard industrial classification (SIC) major groups 10 through 14
- Manufacturing operations SIC major groups 20 through 39
- Railroad Transportation groups 40
- Motor Freight Transportation group 42
- Electric Services SIC group 491
- Sanitary Services SIC group 495
- Steam Supply SIC group 496

County	Area
Bay	T14N, R5E, Sections 14 to 16 and 21 to 23.
Calhoun	T2S, R4W, Section 34.
Delta	T39N, R22W, Sections 19, 30, south one-half of 17, and south one-half of 18.
Genesee	Starting on Industrial Avenue, north to Pierson Road, east to Dort Highway, south to Hitchcock Street, south to Olive Avenue (extended), south to Robert T. Longway Boulevard, west and southwest to Industrial Avenue.
Lapeer	7N, R12E, that portion of Section 17 which lies south of M-21 and east of Fairground Road. Macomb T4N, R14E, Sections 27, 28, 33, and 34.
Manistee	T21N, R16W, sections 7, 18, and 19; T21N, R17W, Sections 12 and 13.
Midland	T14N, R2E, Sections 14 to 16, 21 to 23, 26 to 28, and 33 to 35.
Monroe	Starting where Sandy Creek empties into Lake Erie, northwest to Maple Avenue (extended north-northeast), southwest to Elm Avenue, west to Herr Road, south to Dunbar Road and east to Plum Creek (which empties into Lake Erie).
Muskegon	T9N, R16W, Sections 5 and 6; T10N, R16W, Sections 21, 22, and 27 to 34.
Saginaw	Northeast section: starting on Tittabawassee Road, east to I-75, south to Wadsworth Avenue, west to I-675, west and north to Tittabawassee Road. Southwest section: T12N, R4E, the eastern half of Section 34 (that which is east of Maple Street) and Section 35.
St. Clair	T6N, R17E, Sections 2 to 4, 9 to 11, 14 to 16, 21, 22, and 28.
Wayne	Area included within the following (counter clockwise): Lake St. Clair to Moross Road to Seven Mile Road to Vandyke Road to Eight Mile Road to Wyoming Road to Seven Mile Road to Schaeffer Road to Fenkell Road to Greenfield Avenue to Joy Road to Southfield Expressway to Ford Road to Telegraph Road to Cherry Hill Road to Beech-Daly Road (extended) to Michigan Avenue to Inkster Road to Carlisle Street to Middle Belt Road to Vanborn Road to Wayne Road to Pennsylvania Road to Middle Belt Road to Sibley Road to Telegraph Road to King Road to Grange Road to Sibley Road to Jefferson Avenue to Bridge Street (Grosse Ile) extended to Detroit River. Also included is that portion of the City of Riverview which is south of Sibley Road and the City of Trenton.

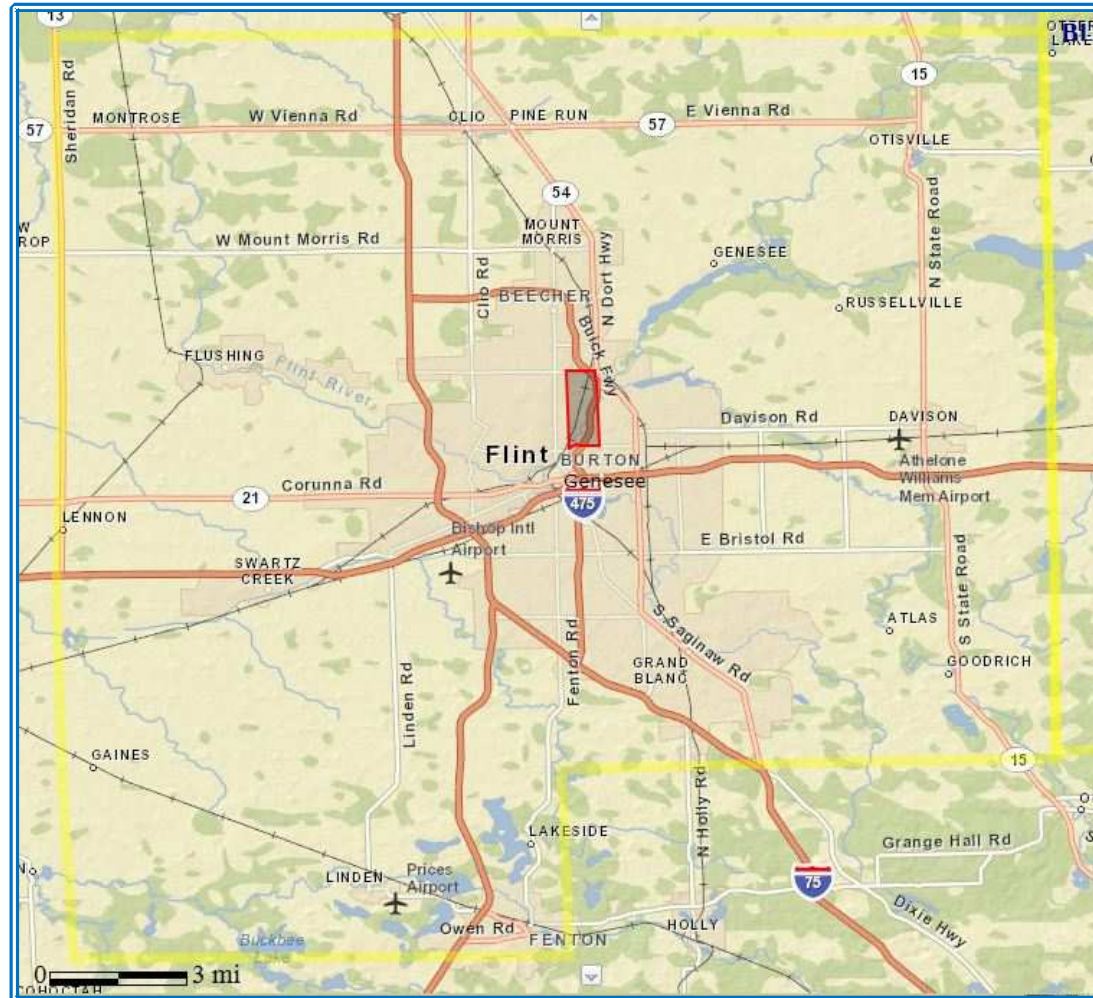
Geographical Areas covered in Section 5524



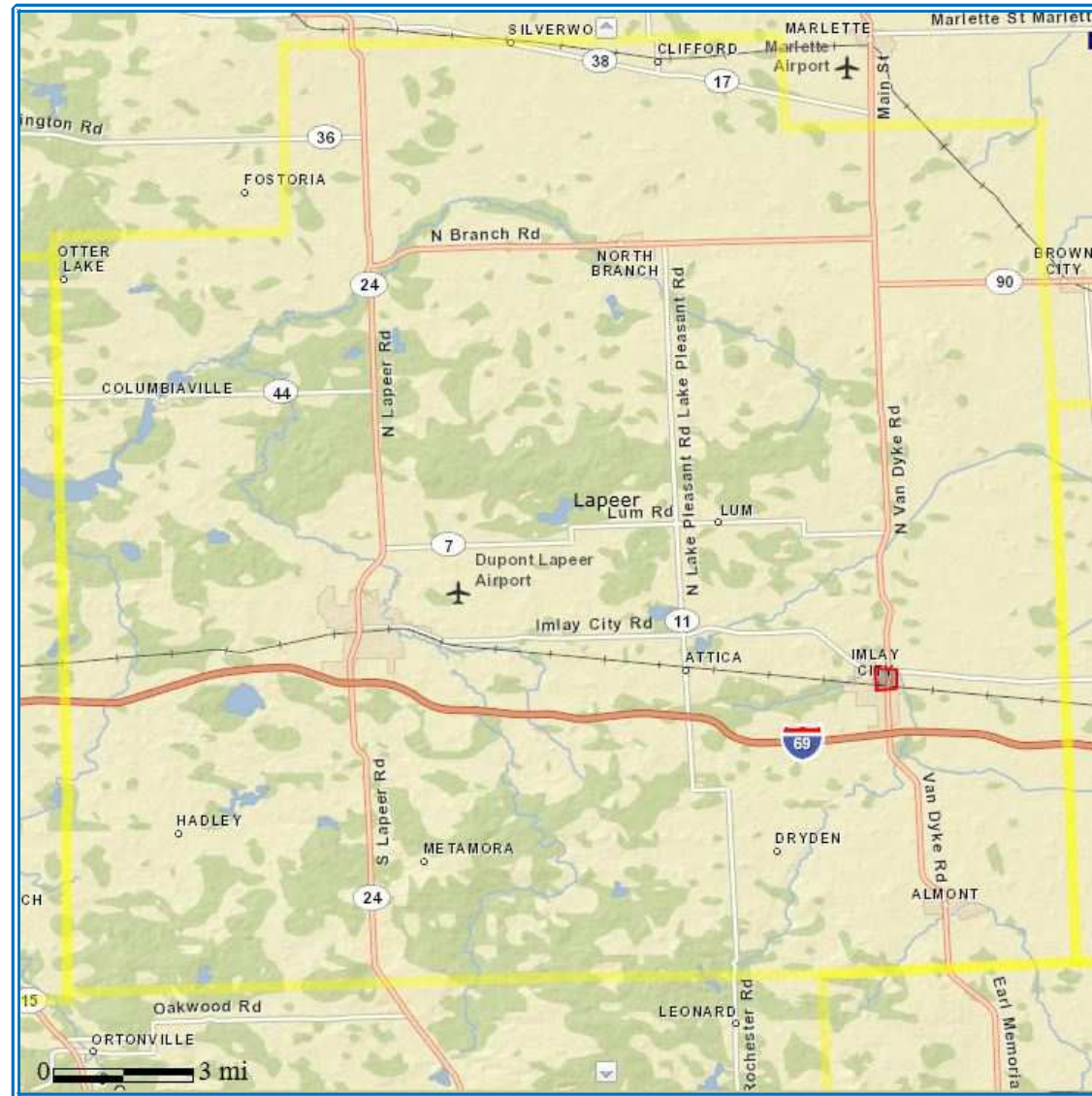
Saginaw, Bay, and Midland Counties



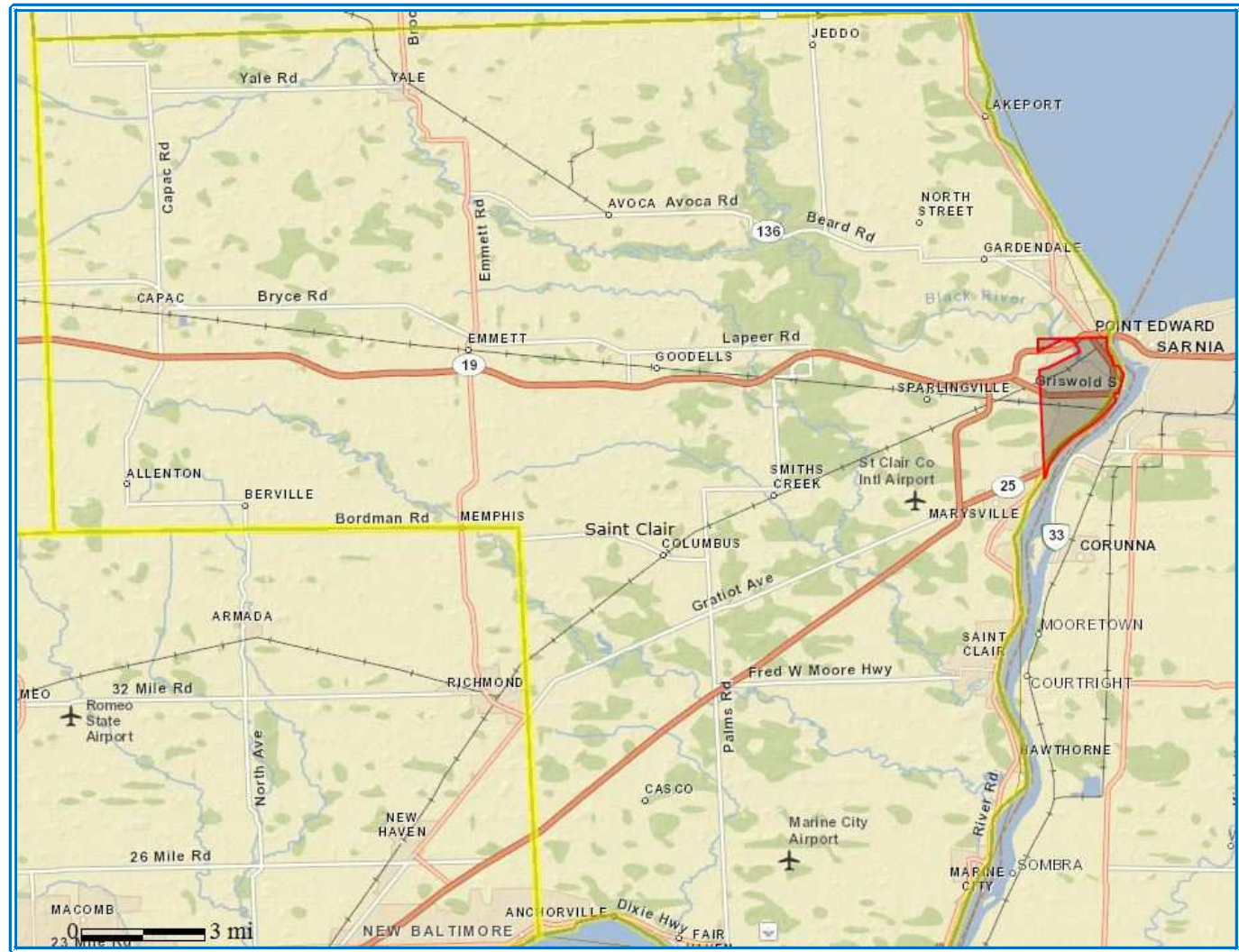
Genesee



Lapeer County



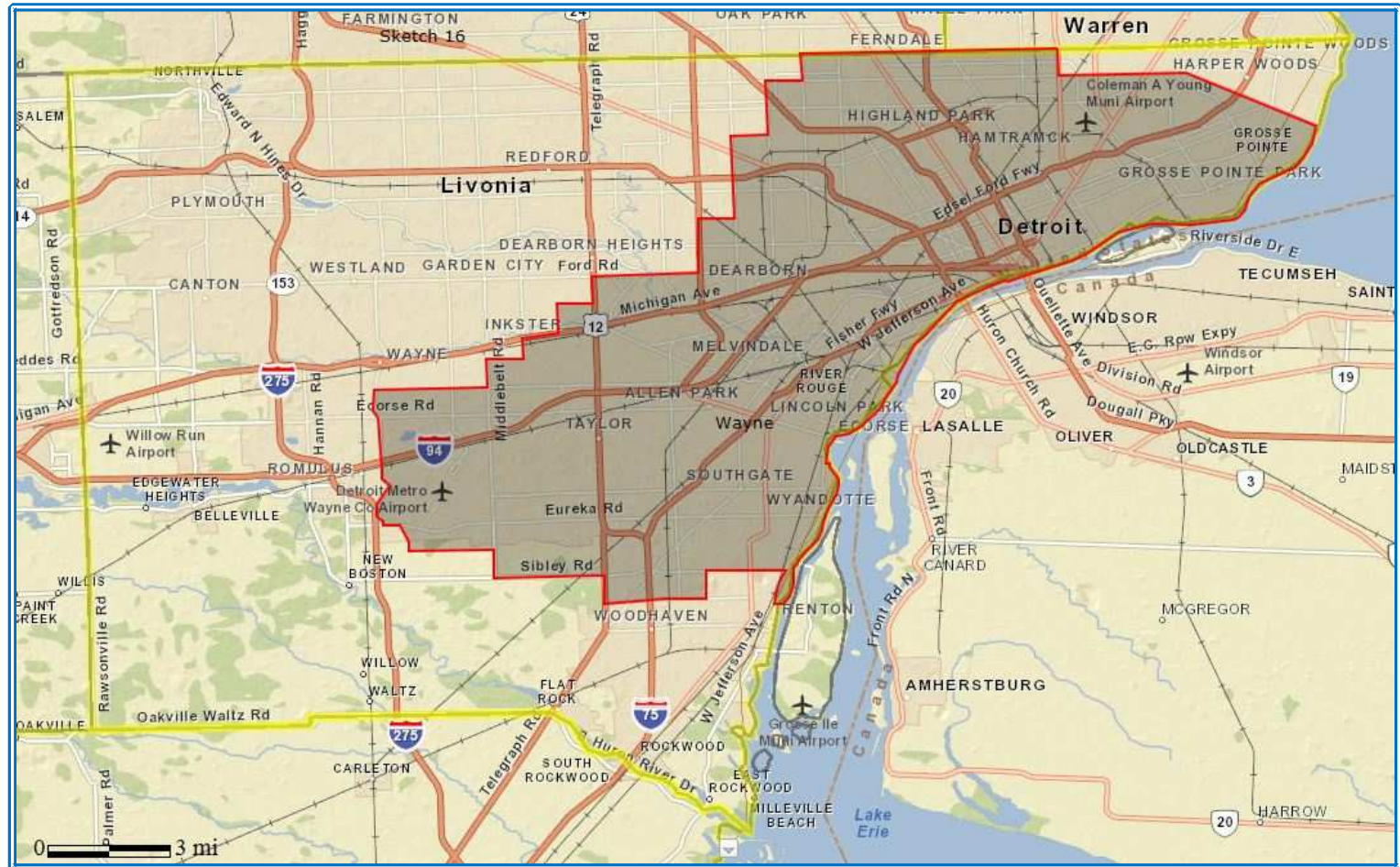
St. Clair County



Macomb County



Wayne County



Monroe County



NREPA

Section 5524

Fugitive Dust Emission Limits

- Roads, lots, or storage piles, including any material handling activity at a storage pile
- Any other fugitive dust source
- The provisions of this subsection shall not apply to storage pile material handling activities when wind speeds are in excess of 25 miles per hour (40.2 kilometers per hour)

Fugitive Dust Requirements

- Lists required procedures for controlling fugitive dust from:
 - Storage piles
 - Batch loading operations
 - Unloading storage piles
 - Traffic pattern access areas
 - Unloading/transporting operations
 - Crushers, grinding mills, screens, bucket elevators, conveyor transfer points, conveyor bagging operations, storage bins, truck and rail car loading
 - Transport vehicles
 - Baghouse emission limits

Part 2 Rules

AIR USE APPROVAL

Rule 201: Permit to Install

General

- Streamlined permitting alternative
- Must meet specified applicability criteria
- Contains fugitive dust control measures based on R 324.5524 and R 336.1372

Site Specific

- Limits and conditions based on specific equipment, control, and location parameters
- Contains fugitive dust control measures based on R 324.5524 and R 336.1372

Part 3 Rules

Emission Limitations and Prohibitions – Particulate Matter

Rules Addressing Fugitive Dust

- Rule 301: Standards for density of emissions
- Rule 303: Grading visible emissions
- Rule 371: Fugitive dust control programs other than areas listed in table 36
- Rule 372: Fugitive dust control program; required activities; typical methods

Part 3 Rules

Rule 301: Standards for density of emissions

Visible emission density (Opacity)

- Limited to the most stringent of:
 - Six minute average of 20% (except for 1 6-minute average per hour of not more than 27% opacity)
 - Applicable NSPS limit
 - PTI limit
- Test Method
 - Method 9
 - Method 9d
 - Method 22

Test Methods

Test Method	Certification Required	Applicable to Fugitive Emission Sources	Citation
Method 9	Yes	Yes	40 CFR 60 Appendix A-4
Method 9d	Yes (Method 9)	Yes	NREPA Act 451, Section 5525
Method 22	No	Yes	40 CFR 60 Appendix A-7

Part 3 Rules

Rule 303: Grading visible emissions

Determined by a certified observer

VISIBLE EMISSIONS EVALUATOR

Kerry Ken...

This is to certify that the above named observer has met the specifications of Federal Reference Method 9 and is qualified as a visible emissions evaluator. Maximum deviation on white and black smoke did not exceed 7.5% opacity and no gross error exceeding 15% opacity was incurred during the certification test conducted by Technical Associates. This certificate is valid for six months from date of issue.

3-036
Certificate #

KEL49255
Student ID Number

10/7/2015
Date of Certification

Detroit, MI
Location

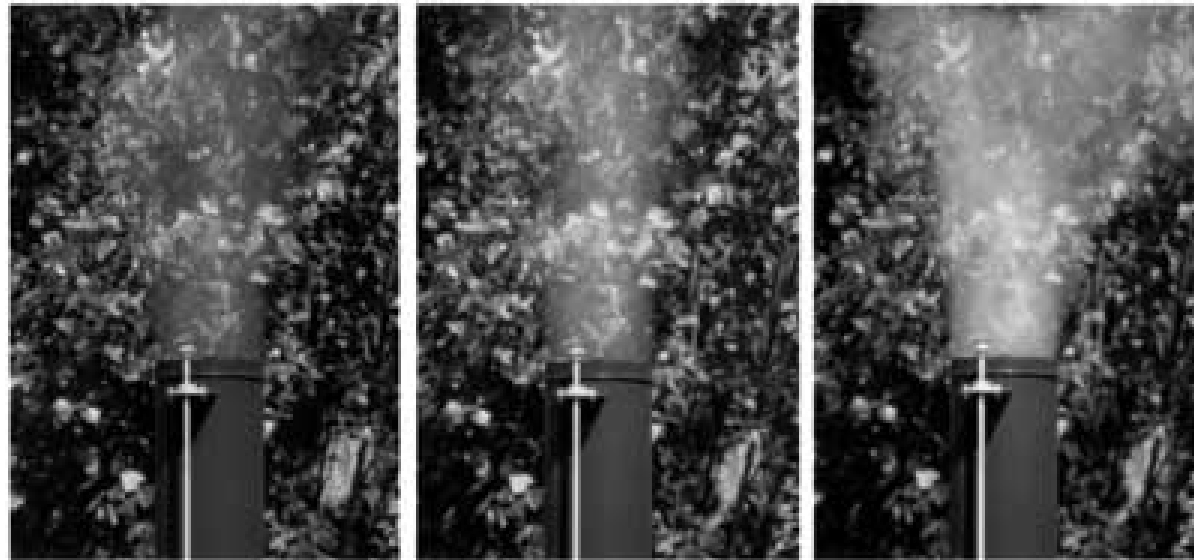
4/7/2016
Certification Expiration Date

4/7/2015
Last Lecture

Director of Training

Opacity Defined

The DEQ defines opacity as the degree to which an emission reduces the transmission of light or obscures an observer's view



Method 9

- Principle
- Applicability
- Procedures
- Position of observer
- Field Records
- Observations
- Recording Observations
- Qualifications and Testing
- Certification Requirements and Certification Procedure

Method 22

Procedure Basics

Position

- Observation location consistent with the requirements of the applicable regulation
- Clear view of the potential emission point(s)
- Sun to back
- Contrasting background
- At least 15 feet, but not more than 0.25 miles

Equipment

- Two stopwatches (1/2 second)
- Light meter (inside building only)
- Inspection sheet & writing utensil

Part 3 Rules

Rule 371: Fugitive dust control programs other than areas listed in Table 36

AQD can request a person who is responsible for the operation of any facility which processes, uses, stores, transports, or conveys bulk materials submit a fugitive dust control program



Fugitive Dust Control

**Rule 372: Fugitive dust control program; required activities;
typical control methods**



APPENDIX A

Fugitive Dust Control Plan

I. Plant

The drop distance at each transfer point throughout the plant shall be reduced to the minimum the equipment can achieve.

II. Truck Traffic

On-site vehicles shall be loaded to prevent their contents from dropping, leaking, blowing or otherwise escaping. This shall be accomplished by loading so that no part of the load shall come in contact within six inches of the top of any sideboard, side panel or tailgate, otherwise, the truck shall be tarped.

III. Site Roadways and the Plant Yard

- (a) The dust on the site roadways and the plant yard shall be controlled by applications of water, calcium chloride or other acceptable and approved fugitive dust control compounds. Applications of dust suppressants shall be done as often as necessary to meet an opacity limit of five percent.
- (b) All paved roadways and the plant yards shall be swept as needed between applications of dust suppressants.
- (c) Any material spillage on roads shall be cleaned up immediately.
- (d) A record of all applications of dust suppressants and roadway and the plant yard sweepings shall be kept on file for the most recent five-year period and be made available to the AQD upon request.

IV. Storage Piles

- (a) Stockpiling of all nonmetallic minerals shall be performed to minimize drop distance and control potential dust problems.
- (b) Stockpiles shall be watered on an as needed basis in order to meet an opacity limit of five percent. Equipment to apply water or dust suppressant shall be available at the site, or on call for use at the site, within a given operating day.
- (c) A record of all watering shall be kept on file for the most recent five-year period and be made available to the AQD upon request.

V. AQD/MDEQ Inspection

The provisions and procedures of this plan are subject to adjustment by written notification from the AQD, if following an inspection, the AQD finds the fugitive dust requirements and/or the permitted opacity limits are not being met.

Plant

Minimize Drop Distance



Truck Traffic



The load shall be at least 6 inches below the sideboard, side panel, or tailgate

If the load is fewer than 6 inches from the top of sides, the load must be tarped

Site Roadways and the Plant Yard



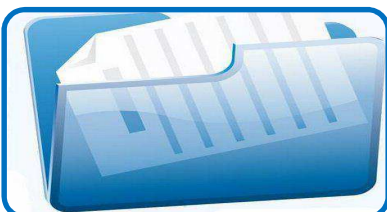
Sweep paved roadways



Apply water



Clean up spills immediately



Maintain records of water applications and sweeping for five years

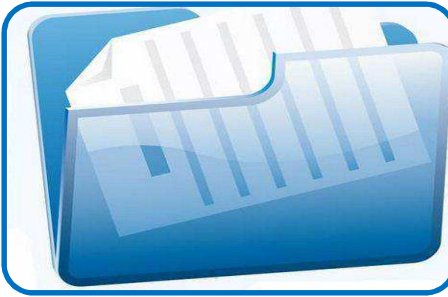
Storage Piles



Minimize drop distance



Apply water



Maintain records of water applications for five years

Fugitive Dust Plan Adjustments

The fugitive dust plan may be adjusted if, following an inspection, the AQD finds the fugitive dust requirements and/or the permitted opacity limits are not being met

Additional Dust Control Measures

- More fugitive dust control measures can be found in Rule 372 and the National Sand and Gravel Association publication “How to Save Dollars on Dust Control”

Part 9 Rules

Emission Limitations and Prohibitions – Miscellaneous

- Rule 901: Air contaminant or water vapor; prohibition
 - A person shall not cause or permit the emission of an air contaminant or water vapor in quantities that cause, alone or in reaction with other air contaminants, either of the following:
 - (a) Injurious effects to human health or safety, animal life, plant life of significant economic value, or property.
 - (b) Unreasonable interference with the comfortable enjoyment of life and property.

Conclusion

- Laws (acts), rules, and regulations
 - CAA, NREPA, Title 40, Air Pollution Control Rules
- Air pollutants
 - Criteria and hazardous air pollutants
- Sources of fugitive dust complaints
 - Services, manufacturing, agricultural
- Method 9, 9D, 22
- Fugitive dust control measures
 - Water sprays, sweeping, minimize drop distance, clean up spills, tarp trucks

Need more Fugitive Dust?

Dust and Asbestos Management
Workshop

April 26, 2016 in Livonia

Register by going to
www.michigan.gov/air

Click on the workshop link under
“Announcements”





What's Coming Up?

Enforcement – I received a Violation Notice.

Now what?

Wednesday, May 18, 2016 at 10:00

Complaints: Odors, Open burning, and Dust - Oh my!

Wednesday June 15, 2016

Please join us!

Wrap Up



AQD 101
Webinar
Series

- Recording
- Materials
- Continuing Education
- Evaluation

Michigan Department of Environmental Quality

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